

CLAIMSWhat Is Claimed Is:

- 5 1. A fixative for ink-jet printing, said fixative for overcoating at least one ink printed on a print medium, each said ink printed from a separate printhead, said fixative comprising a two-part system and consisting essentially of (1) at least one reactive monomer or oligomer, said reactive monomer or oligomer selected from the group consisting of iso-cyanates and epoxy-terminated oligomers, optionally
10 in a vehicle, and (2) at least one second component selected from the group consisting of polyols and polyvinyl alcohols plus at least one base catalyst, optionally in a vehicle, said at least one reactive monomer or oligomer contained separately from said at least one second component, said at least one reactive monomer or oligomer reacting with said at least one second component on said print medium
15 to form a hydrophobic polymer overcoating said printed ink, said polymer having a glass transition temperature within a range of -50°C to +100°C and a melting temperature within a range of 30°C to 150°C.
- 20 2. The fixative of Claim 1 wherein at least three color inks are each associated with a separate printhead.
3. The fixative of Claim 2 wherein said at least three color inks are cyan, yellow, and magenta.
- 25 4. The fixative of Claim 2 wherein three color inks are associated with three separate printheads and one black ink is associated with a fourth separate printhead.
- 30 5. The fixative of Claim 1 wherein said monomer or oligomer has a concentration within a range of about 0.1 to 100 wt%.

6. The fixative of Claim 1 wherein said polyol or polyvinyl alcohol has a concentration within a range of about 0.1 to 100 wt%.

5 7. The fixative of Claim 1 wherein said polyol or polyvinyl alcohol is reacted in a 1:1 ratio, or excess of said polyol or polyvinyl alcohol, with said reactive monomer or oligomer.

10 8. A method for printing on a print media, including printing at least one ink-jet ink on said print media and then depositing a fixative on said at least one ink-jet ink, said method comprising:

providing a first container containing at least one first reactive component selected from the group consisting of iso-cyanate monomers and epoxy-terminated oligomers, optionally in a vehicle;

15 providing a second container containing at least one second component selected from the group consisting of polyols and polyvinyl alcohols, plus at least one base catalyst, optionally in a vehicle;

in either order, depositing said at least one first reactive component and said at least one second component on said printed ink-jet ink; and

20 allowing reaction to proceed between said at least one first reactive component and said at least one second reactive component on said print media to form a hydrophobic polymer, said polymer having a glass transition temperature within a range of -50°C to +100°C and a melting temperature within a range of 30°C to 150°C to thereby fix said at least one ink-jet ink on said print media.

25 9. The method of Claim 8 wherein at least three color inks, each associated with separate printheads, are provided.

10. The method of Claim 9 wherein said at least three color inks are cyan, yellow, and magenta.

11. The method of Claim 9 wherein three color inks associated with three separate printheads and one black ink associated with a fourth separate printhead are provided.

5 12. The method of Claim 8 wherein said monomer or oligomer has a concentration in said first container within a range of about 0.1 to 100 wt%.

13. The method of Claim 8 wherein said polyol or polyvinyl alcohol has a concentration in said second container within a range of about 0.1 to 100 wt%.

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14. The method of Claim 8 wherein said polyol or polyvinyl alcohol is reacted in a 1:1 stoichiometric ratio, or excess of said polyol or polyvinyl alcohol, with said reactive monomer or oligomer.

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15. The method of Claim 8 wherein at least one of said at least one first reactive component and said at least one second component is printed through a printhead onto said printed ink-jet ink.

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16. In combination, (a) a two-part fixative, including (1) at least one first reactive component selected from the group consisting of iso-cyanate monomers and epoxy-terminated oligomers, optionally in a vehicle, and (2) at least one second component selected from the group consisting of polyols and polyvinyl alcohols, plus at least one base catalyst, optionally in a vehicle; and (b) at least one ink-jet ink printed on a print media, said at least one first reactive component and said at least one second reactive component reacting on said printed ink-jet ink to form a hydrophobic polymer, said polymer having a glass transition temperature within a range of -50°C to +100°C and a melting temperature within a range of 30°C to 150°C to thereby fix said at least one ink-jet ink on said print media.

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17. The combination of Claim 16 wherein at least three color inks, each associated with separate printheads, are provided.

5 18. The combination of Claim 17 wherein said at least three color inks are cyan, yellow, and magenta.

19. The combination of Claim 17 wherein three color inks associated with three separate printheads and one black ink associated with a fourth separate printhead are provided.

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20. The combination of Claim 16 wherein said monomer or oligomer has a concentration within a range of about 0.1 to 100 wt%.

15 21. The combination of Claim 16 wherein said polyol or polyvinyl alcohol has a concentration within a range of about 0.1 to 100 wt%.

22. The combination of Claim 16 wherein said polyol or polyvinyl alcohol is reacted in a 1:1 stoichiometric ratio, or excess of said polyol or polyvinyl alcohol, with said reactive monomer or oligomer.

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